COSEWIC Annual Report

presented to

The Minister of the Environment

and

The Canadian Endangered Species Conservation Council (CESCC)

from

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

2008 - 2009

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

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Committee on the Status
of Endangered Wildlife
in Canada

COSEPAC
Comité sur la situation
des espèces en péril
au Canada

August 28, 2009

The Honourable Jim Prentice
Minister of the Environment
Les Terrasses de la Chaudière
10 Wellington Street
28th Floor
Gatineau, Québec
K1A 0H3

Dear Minister Prentice,

Please find enclosed the 2008-2009 Annual Report of the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) which I respectfully submit to you and to the Canadian Endangered Species Conservation Council (CESCC), thus fulfilling the obligations to COSEWIC under Sections 25 and 26 of the *Species at Risk Act* (SARA). Please be advised that this report is available online at http://www.sararegistry.gc.ca/sar/assessment/cosewic_annual_e.cfm

I would like to draw your attention to the items elaborated on in the attached report for your approval, consideration or information.

ITEM I – COSEWIC Activities (for information)

To date, COSEWIC has assessed 585 wildlife species in various risk categories, including 244 Endangered, 145 Threatened, 160 Special Concern, 23 Extirpated wildlife species and 13 wildlife species as Extinct. Also, to date, 45 wildlife species have been identified by COSEWIC as Data Deficient.

ITEM II – COSEWIC Membership (for information)

In my letter to you of May 27, 2009, I provided the names of individuals who have been nominated for membership on COSEWIC for your approval. You will also find the names of those individuals within this report.

ITEM III – COSEWIC Operations and Procedures (for information)

I wish to draw attention to the following changes in Operations & Procedures: Revised appendix: Appendix E6 (Procedures for Status Reviews [including Status Appraisals and Reassessments])

ITEM IV – COSEWIC Communications Plan (for information)

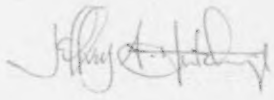
Following a request by the Canadian Wildlife Directors Committee to work on developing an outreach strategy to explain COSEWIC to Canadians, a summary of presentations given by the Chair of COSEWIC is provided.

ITEM V – Wildlife Species Status Assignments (for consideration)

A list of wildlife species assessed since the last reporting is included, indicating status assigned, reasons for designation (including uncertainties, if applicable), and COSEWIC criteria with alphanumeric codes. Considerations for updates to Schedule 1 of the *Species at Risk Act* are indicated, as well as confirmations of status (when status assigned by COSEWIC has not changed upon review of classification) for Schedule 1 species.

I wish to express my sincere appreciation for the support of your ministry to COSEWIC and to the conservation and protection of wildlife species at risk in Canada.

Yours sincerely,



Jeffrey A. Hutchings
Chair of COSEWIC

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ITEM I - COSEWIC ACTIVITIES

1. Wildlife Species Assessment Meetings

Autumn, 2008

Date: November 25-28, 2008
Location: Ottawa, Ontario

Attendance:

Members - 39 members/alternates
Secretariat Staff – 7
Observers – 15 (1 Ontario Ministry of Natural Resources [member pending re-appointment], 1 Co-chair elect, Molluscs Specialist Subcommittee; 1 Co-chair elect, Terrestrial Mammals Specialist Subcommittee; 1 nominee for membership, Fisheries & Oceans Canada; 1 Canadian Wildlife Federation; 1 Nature Canada; 1 Canadian Wildlife Service; 1 Canadian Cattlemen's Association; 2 Fisheries & Oceans Canada; 2 Parks Canada; 3 students, McGill Univerisity.

Spring, 2009

Date: April 26 - May 1, 2009
Location: St. Andrews, New Brunswick
Co-hosted by the Government of New Brunswick and Fisheries & Oceans Canada.

Attendance:

Members - 45 members/alternates
Secretariat Staff – 9
Observers – 32 (1 Co-chair elect, Birds Specialist Subcommittee; 1 World Conservation Union [IUCN]; 8 Fisheries & Oceans Canada; 2 Canadian Wildlife Service; 1 Department of National Defence; 1 Bird Studies Canada; 1 Atlantic Canada Conservation Data Centre; 6 Government of New Brunswick; 1 Nature Trust of New Brunswick; 3 students - Moncton University; 1 Nature Trust of New Brunswick; 1 New Brunswick Federation of Naturalists; 1, faculty - University of New Brunswick; 1 student - St. Thomas University; 1 World Wildlife Fund Canada; 2 independent).

Teleconferences:

Following each of the above-noted COSEWIC Wildlife Species Assessment Meetings, the Chair of COSEWIC communicated with the Canadian Wildlife Directors Committee (CWDC) via teleconference, as well as with representatives of the Wildlife Management Boards (WMBs) and members of the National Aboriginal Council on Species at Risk (NACOSAR)

2. Summary of the Wildlife Species Assessment Meetings

In November 2008, COSEWIC assessed 21 wildlife species (species, subspecies and populations) based on 15 Status Reports, 4 of which were unsolicited reports.

The wildlife species assessment results include the following:

Extirpated 1

Endangered: 5

Threatened: 9

Special Concern: 6

Of these assessments, COSEWIC reviewed the status classification of 6 wildlife species that are already listed on Schedule 1 of the *Species at Risk Act*, and confirmed that there was no change in COSEWIC-recommended status: Vancouver Lamprey, Mexican Mosquito-fern, Rainbow Smelt (Lake Utopia small-bodied population), Killer Whale (West Coast Transient population), Killer Whale (Northern Resident population), and Killer Whale (Southern Resident population).

COSEWIC hereby forwards the COSEWIC assessments for the remaining 15 wildlife species classified as extirpated, endangered, threatened and of special concern to the Minister of Environment so that he can consider whether to recommend to the Governor in Council (GIC) that they be added to Schedule 1 of the Species at Risk Act: Band-tailed Pigeon, California Buttercup, Cobblestone Tiger Beetle, Gray's Desert-parsley, Killer Whale (Northwest Atlantic / Eastern Arctic populations), Killer Whale (Offshore population), Lake Chubsucker, Oregon Lupine, Pygmy Snaketail, Rainbow Smelt (Lake Utopia large-bodied population), Roundnose Grenadier, Slender Popcornflower, Snapping Turtle, Yelloweye Rockfish (Pacific Ocean outside waters population), Yelloweye Rockfish (Pacific Ocean inside waters population).

In April 2009, COSEWIC assessed the status of 27 wildlife species (species, subspecies and populations) based on 20 Status Reports, 1 of which was unsolicited.

The wildlife species assessment results include the following:

Extirpated: 1

Endangered: 13

Threatened: 4

Special Concern: 7

In addition, 1 wildlife species was assessed as Not at Risk, and 1 was examined and found to be Data Deficient.

Of these assessments, COSEWIC reviewed the status classification of 11 wildlife species that are listed on Schedule 1 of the *Species at Risk Act*, and confirmed that there was no change in the COSEWIC-recommended status: Roseate Tern, Least Bittern, Bowhead Whale

(Bering-Chukchi-Beaufort population), Black-footed Ferret, Deltoid Balsamroot, Prairie Lupine, Water-plantain Buttercup, Drooping Trillium, Maritime Ringlet, Northern Leopard Frog (Rocky Mountain population), and Northern Leopard Frog (Western Boreal/Prairie populations).

COSEWIC hereby forwards the COSEWIC assessments for the remaining 14 wildlife species classified as extirpated, endangered, threatened and of special concern to the Minister of Environment so that he can consider whether to recommend to the GIC that they be added to Schedule 1 of the *Species at Risk Act*: American Plaice (Newfoundland and Labrador population), American Plaice (Maritime population), Bent Spike-rush (Southern Mountain population), Bent Spike-rush (Great Lakes Plains population), Bigmouth Buffalo (Saskatchewan-Nelson River populations), Bowhead Whale (Eastern Canada-West Greenland population), Brook Floater, Edwards' Beach Moth, Horned Grebe (Western population), Horned Grebe (Magdalen Islands population), Northern Abalone, Spring Cisco, Whip-poor-will, White-top Aster.

As of April 2009, the COSEWIC assessment results include 585 wildlife species at risk in various categories, including 244 endangered wildlife species, 145 threatened wildlife species, 160 wildlife species of special concern, 23 extirpated wildlife species (no longer found in the wild in Canada but occurring elsewhere), and 13 extinct wildlife species. 45 wildlife species have been designated as data deficient.

See Appendix I for the COSEWIC Press Releases from the November 2008 and April 2009 Wildlife Species Assessment Meetings.

Emergency Assessments:

During the period covered in this report COSEWIC did not receive any requests for Emergency Assessment.

3. Regarding Wildlife Species Assessments returned by the Governor in Council (GIC) to COSEWIC for further information or consideration:

A formal response was provided in my letter of December 3, 2008 to the Minister of the Environment to the referral (26 December, 2007) of the wildlife species assessment for Ghost Antler (*Pseudevernia cladonia*) by the GIC back to COSEWIC for further information or consideration. The significant delay in my response to this referral can be attributed to the lack of a mechanism by which COSEWIC is formally notified of species referrals back to COSEWIC by the GIC. In the case of Ghost Antler, I only became aware of the referral in September 2008 as a result of an enquiry from an Environmental Non-governmental Organization. In the future, it would be extremely helpful if a formal mechanism was established by which the GIC decisions to refer species assessments back to COSEWIC were communicated directly to COSEWIC.

The assessment for this wildlife species of lichen was referred back to COSEWIC because of new information that was not available at the time of the wildlife species assessment. Following receipt by the GIC of the status report for Ghost Antler from COSEWIC, the Government of New Brunswick notified Environment Canada of the discovery of more than one million individuals of this wildlife species at a previously unsurveyed location.

On the basis of a recommendation from the Mosses and Lichens Species Specialist Subcommittee, COSEWIC agreed at its 25-28 November 2008 Wildlife Species Assessment

Meeting that this new information may lead to a change in the status of the species. COSEWIC will incorporate this new information, and any additional data that were unavailable at the time of the original status assessment, in the preparation of a new status report on Ghost Antler.

In response to the GIC's Spring 2009 decision to refer the assessment of Northern Fur Seal (*Callorhinus ursinus*) back to COSEWIC, the Marine Mammals Species Specialist Subcommittee has initiated a review of the new information that has been brought to COSEWIC's attention in this regard.

4. Wildlife Species Selected for Status Report Preparation to be included in the Autumn 2009 Call for Bids

Following COSEWIC's process for determining those wildlife species for which status reports will be commissioned (as described in the 2005 COSEWIC Annual Report to CESCC) , the following 15 wildlife species from COSEWIC's Species Specialist Subcommittee candidate lists were chosen by the Committee at the April 2009 COSEWIC meeting for status report commissioning in the autumn of 2009, in addition to up to 53 wildlife species requiring update status reports.

	Wildlife species name	Species specialist subcommittee
1.	Yukon Whitlow-grass	Vascular Plants
2.	Island Tiger	Arthropods
3.	Buff-breasted Sandpiper	Birds
4.	Northern Dusky Salamander	Amphibians & Reptiles
5.	Western Bumble Bee	Arthropods
6.	Gibson's Big Sand Tiger Beetle	Arthropods
7.	*Efferia* n. sp.	Arthropods
8.	Collared Pika	Terrestrial Mammals
9.	Magnipelta Mycophaga	Molluscs
10.	Plains Minnow	Freshwater Fishes
11.	Baird's Sparrow	Birds
12.	Riverine Clubtail	Arthropods
13.	Groundsel-tree	Vascular Plants
14.	Silky Beach Vetchling	Vascular Plants
15.	Greenish-white Grasshopper	Arthropods

5. Workshops

Aboriginal Elder/Knowledge Holders Workshops

Aboriginal Traditional Knowledge (ATK) Subcommittee members held workshops regarding the development of the guidelines for the incorporation of ATK into COSEWIC assessments in October, 2008 with the Elders and ATK holders from Eastern Canada and in July 2009 with Elders and ATK holders from Northern Canada. In the autumn of 2009 there will be a smaller workshop with a subset of elders to finalize the ATK guidelines.

Workshop – Criteria - World Conservation Union (IUCN) – April 26, 2009

On April 26 immediately prior to the COSEWIC Wildlife Species Assessment Meeting, a representative of IUCN, Caroline Pollock, conducted a very informative workshop on IUCN criteria and their application. The criteria currently in use by COSEWIC were adapted from the IUCN criteria.

6. Annual Subcommittee Meetings:

ATK Subcommittee

The ATK Subcommittee held three meetings between October 2008 and March 2009. One meeting included discussions with the National Aboriginal Council on Species at Risk (NACOSAR).

The ATK Subcommittee gave a presentation at the NACOSAR National Species at Risk Workshop held in February. It was titled "Using Aboriginal Traditional Knowledge in aiding Species at Risk". The theme of the workshop was *"Aboriginal Peoples' Perspective on the Implementation of SARA"* .

The purpose of the *ATK Process and Protocol Guidelines* is to provide guidance to COSEWIC for the gathering and inclusion of ATK in the COSEWIC wildlife species assessment process. The ATK Subcommittee has benefitted from 4 workshops where Elders and ATK Holders were asked to provide input into the content of the Guidelines. A draft version of the Guidelines is anticipated for review by COSEWIC in November 2009.

The ATK Subcommittee is working with COSEWIC to revise the *Operations & Procedures Manual* to define the processes and procedures for the ATK component of COSEWIC's species assessment process, and is working with the Aboriginal Community to generate a list of priority wildlife species. Also, the ATK Subcommittee is working with the COSEWIC Secretariat on the development of an ATK library.

Species Specialist Subcommittees:

Species Specialist Subcommittee (SSC) meetings take place annually in different locations in Canada or by teleconference. During the face-to-face meetings, observers are invited to attend and sometimes a public information session takes place. Important topics of discussion during these meetings include the reporting of results of recent COSEWIC Wildlife Species Assessment Meetings, results of public calls for bids for the preparation of COSEWIC status reports, and results of public calls for membership. Additionally, subcommittees provide orientation to their new members, develop recommendations on wildlife species status assessment, review candidate lists of wildlife species proposed for assessment, discuss special projects and plans, and receive an update on COSEWIC Operations and Procedures.

Indicated below are the names of the COSEWIC SSCs and, where relevant, a summary of special activities, projects and plans undertaken by the SSC.

COSEWIC is extremely grateful for the important work of the SSC members who provide their time and expertise on a volunteer basis.

Amphibians & Reptiles Specialist Subcommittee

No special projects to report.

Arthropods Specialist Subcommittee

A Coccinellidae Information Assembly Study is in progress. The purpose of the study is to develop a report to document changes in geographic ranges of potentially vulnerable native lady beetles. The final report produced under this contract will serve as the primary basis for prioritising species for future COSEWIC assessment.

Birds Specialist Subcommittee

No special projects to report.

Freshwater Fishes Specialist Subcommittee

A report and executive summary on *Designatable Units at an appropriate scale for Lake Whitefish* Coregonus clupeaformis *complex* was completed. This report was provided to COSEWIC and was officially tabled at the April 2009 Wildlife Species Asssessment Meeting. The report was prepared for Lake Whitefish but it was suggested that this approach could also be used for other wildlife species where discreteness and significance are taken into consideration in assessing designatable units.

Marine Fishes Specialist Subcommittee

No special projects to report.

Marine Mammals Specialist Subcommittee

No special projects to report.

Molluscs Specialist Subcommittee

A project is currently in progress to develop a prioritized candidate wildlife species list of terrestrial molluscs in Ontario and Quebec. The final report is expected in the summer of 2009. Completion of this project will assist the Subcommittee in updating its candidate list.

Mosses & Lichens Specialist Subcommittee

Work has started to update the lichen prioritization list and to create/update a lichen prioritization database. The anticipated completion date is August 31, 2009.

Terrestrial Mammals Specialist Subcommittee

No special projects to report.

Vascular Plants Specialist Subcommittee

The Subcommittee has initiated a major revision and update of its prioritized candidate list.

7. Update on Progress of Working Groups within COSEWIC

Name of working group	Summary of progress
1. Ecosystem Approach	On hold pending discussion of level and nature of resources to implement recommendations.
2. Threats Classification	The working group is looking at a standardized way of identifiying threats, classifying, reporting and substantiating the magnitude of threats in a consistent way. In April 2009 COSEWIC decided to combine this working group with the Criteria Working Group.
3. Prairie Sand Dunes Ecosystem	Work by Dr. Darren Bender's lab, University of Calgary, is ongoing. Work is comprised of the compilation of a retrospective analysis of trends in prairie sand dune habitat and, for Alberta; the initial report is expected by early autumn. Work has fueled additional field surveys for sand dune-dependent organisms such as arthropods and plants.
4. Instructions to Status Report Writers	The working group presented a suite of changes to the *Instructions for the Preparation of COSEWIC Status Reports* and associated other guidance documents. Proposed changes were approved and the *Instructions* documents on the COSEWIC website will be updated for report writers' use.
5 Criteria	A workshop was conducted by a representative of the World Conservation Union (IUCN) prior to the April 2009 meeting of COSEWIC. A number of guidance documents were recently published by IUCN. COSEWIC will look at how to best apply the criteria in order to be consistent with IUCN.
6 SARA Parliamentary Review	The working group completed its report in Spring 2008 in anticipation of the 5-year parliamentary review of SARA. The delay in the initiation of this review resulted in a suspension of the work of the working group until April 2009 when it was tasked with reviewing the Brief and associated recommendations for amendments to SARA that the Chair submitted to the House of Commons Standing Committee on Environment and Sustainable Development in May 2009.

Name of working group	Summary of progress
7. Workload Strategic Planning	A Procedure for Reviews of Classification (including Status Appraisals and Re-assessments) was presented by the Working Group. The objective of the new procedure is to improve COSEWIC's ability to meet its obligation to review classifications of species every 10 years. The procedure was approved by COSEWIC in April 2009.
8. Press Release	A permanent Press Release Working Group is tasked at each Wildlife Species Assessment Meeting with coordinating and preparing the Press Releases issued by COSEWIC.
9. Manipulated Populations	The Manipulated Populations Guidelines Working Group was tasked in April 2009 to revise the guidelines based on experience gained during the Northern Abalone assessment.
10. Marine Ecozones	A prototype of a Marine Ecozone Map is being developed and is anticipated for review at the November Wildlife Species Assessment Meeting.

8. Regarding nominations – Chair of COSEWIC

Following procedures set out in the Operations & Procedures Manual, a nominating committee was struck, chaired by Dr. Sherman Boates which will seek nominees for the position of Chair of COSEWIC for the election to take place April, 2010.

ITEM II - COSEWIC MEMBERSHIP

Membership Changes:

See Appendix II for a list of current and proposed members.

a) Members from Jurisdictions (Provincial/Territorial/Federal):

Proposed for reappointment – Susan Pollard, British Columbia

b) Co-chairs of Species Specialist Subcommittees / Non-government Science Member

Between the period from 22 January to 23 February, 2009, calls for certain co-chair positions on COSEWIC were posted on the COSEWIC public website with notifications of those calls being widely distributed. Selection committees were struck and applications were scrutinized following procedure for member selection as set out in the Operations & Procedures Manual of COSEWIC. Elections took place and as a result, COSEWIC recommended the following for membership on the committee in the positions and for the terms indicated:

Name	Position	New/renewed	Term
Dr. John Post	Co-chair, Freshwater Fishes Specialist Subcommittee	New	January 1, 2010 – December 31, 2013 (4 year term)
Alan Sinclair	Co-chair, Marine Fishes Specialist Subcommittee	new	January 1, 2010 – December 31, 2013 (4 year term)
Dr. Mark Brigham	Co-chair, Terrestrial Mammals Specialist Subcommittee	renewed	January 1 – December 31, 2010 (1 year term)
Bruce Bennett	Co-chair, Vascular Plants Specialist Subcommittee	New	January 1, 2010 – December 31, 2011 (2 year term)
Dr. Erich Haber	Co-chair, Vascular Plants Specialist Subcommittee	renewed	January 1 – December 31, 2010 (1 year term)

See Appendix III for biosketches of these proposed new/renewed COSEWIC members.

Since the passage of SARA, COSEWIC has sought to nominate qualified individuals in such a manner that would ensure the appropriate balance of experienced and new members. As a result of the guidelines articulated in COSEWIC's Operations and Procedures Manual, COSEWIC's process has resulted in a two-thirds renewal of Co-Chairs and Non-Government Science Members since the passage of SARA in 2003.

Despite this successful record of member renewal, the nomination of Dr. David Green, Co-Chair, Amphibians and Reptiles Specialist Subcommittee (1995-2008) and Chair of COSEWIC (1998-2002) was not accepted by the Minister of the Environment because of a perception that the rejection of COSEWIC's nomination of Dr. Green was necessary to provide renewal to the membership of COSEWIC. The reason for not reinstating Dr. Green cannot be interpreted as a Ministerial guideline respecting the appointment of members to COSEWIC. According to Section 17 of SARA, such guidelines can only be established after consultation with COSEWIC. Given the absence of such consultations, guidelines respecting the appointment of members to COSEWIC cannot be said to exist.

The rejection of COSEWIC's advice for membership set a precedent, representing the first occasion on which a Minister has rejected a COSEWIC nominee for membership on COSEWIC. In addition to reducing COSEWIC's ability to assess amphibians at risk in Canada, there is a significant risk that the decision will contribute to a perception that COSEWIC does not act independently of Environment Canada.

ITEM III - COSEWIC OPERATIONS AND PROCEDURES

The COSEWIC Operations and Procedures Manual has been updated since COSEWIC's previous report to reflect changes in COSEWIC's procedures.

COSEWIC approved a substantially revised Appendix E6 (Procedures for Status Reviews [including Status Appraisals and Reassessments]). The status appraisal procedure is a means of improving COSEWIC's ability to fulfil its legislative requirement to review the classification of each species at risk at least once every 10 years. The procedure involves consideration of any new information for a wildlife species that has been summarized in a Status Appraisal Summary instead of consideration of a fully updated status report. The review of classification by means of appraisal will be used only when status has not changed (status confirmations).

ITEM IV - COSEWIC COMMUNICATION PLAN

The November 2006 letter from the Canadian Wildlife Directors Committee (CWDC) encouraged COSEWIC to work to develop an outreach strategy to explain COSEWIC to Canadians. Subsequently, the Chair of COSEWIC has delivered a number of talks about various elements of COSEWIC to a wide range of audiences. During the period encompassed by this Report (August 31, 2008 – August 31, 2009), these presentations have included the following:

Aboriginal Elder's Workshop (Halifax, NS; October 2008)
Third Annual Canada Ocean Lecture (Vancouver, BC; October 2008)
Ministerial Roundtable on Polar Bear (Winnipeg, MB; January 2009)
Third Annual Canada Ocean Lecture (Iqaluit, NU; February 2009)
Third Annual Canada Ocean Lecture (Fisheries & Oceans Canada, Ottawa; May 2009)
Senate Standing Committee on Fisheries and Oceans (Parliament Hill, Ottawa; May 2009)
House of Commons Standing Committee on Environment and Sustainable Development (Parliament Hill, Ottawa; May 2009)
Nunavut Wildlife Management Board (Pangnirtung, NU; June 2009)
American Fisheries Society Plenary Talk (Nashville, TN; August 2009)

ITEM V - WILDLIFE SPECIES STATUS ASSIGNMENTS

Wildlife Species assessed since the last reporting indicating status assigned, reasons for designation (including uncertainties if applicable) and COSEWIC criteria with alphanumeric codes is provided.

See Appendix IV

The status reports are available in English and French on the Public Registry at the following address: http://www.sararegistry.gc.ca/

ITEM VI - WILDIFE SPECIES ASSESSED BY COSEWIC SINCE ITS INCEPTION

See Appendix V

The Canadian Species at Risk publication (August 2009) is available on the Public Registry (http://www.sararegistry.gc.ca/) and it includes all wildlife species assessed by COSEWIC since its inception.

APPENDIX I

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

Killer Whale Faces Uncertain Future

A west coast icon is still at risk according to an independent science body. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) met in Ottawa, Ontario from November 25 to 28, 2008 to assess the status of 21 wildlife species.

Since last assessed in 2001, the Killer Whale remains at risk within much of its Canadian range although the species is not at risk of global extinction. Killer whales live in tight family groups that interact only to a limited extent. They were assessed as five distinct populations. In particular, one west coast resident population near Victoria whose diet is tied to dwindling Chinook Salmon runs contains only 48 adults, leading to a status designation of ENDANGERED. Adult numbers of only slightly more than 100 lead to a designation of THREATENED for three additional west coast populations. The remaining population was assessed as SPECIAL CONCERN. Unfortunately, these patterns reflect the global status for marine mammals in general – a recent analysis estimates a third of the world's marine mammals to be at risk of extinction.

A History of Harvest Pushes this Fish to the Brink

The Roundnose Grenadier, an east coast deep-water marine fish was assessed as ENDANGERED given an unprecedented decline in abundance of greater than 95% in the past 10 years. Although directed commercial harvest in Canada stopped in 1974, fisheries outside Canadian waters remain largely unregulated, and surveys show a continuing decline for this long-lived, slow-maturing species. This reflects global trends for commercially harvested fish stocks, 75% of which are fully exploited, overfished or depleted according to the Food and Agriculture Organization of the United Nations.

Two Habitat Specialists Endangered

The globally rare Cobblestone Tiger Beetle requires cobblestone areas that are seasonally flooded and is reported from only a single river in New Brunswick. The Lake Chubsucker, a small fish restricted to only four drainages in southern Ontario has suffered declines associated with loss of clear water habitats. Given such restricted distribution and habitat needs, these wildlife species face a high risk of extirpation in Canada and were assessed as ENDANGERED.

Canada's Mediterranean Worth Protecting

Vancouver Island's south coast experiences a Mediterranean-like climate that supports ecosystems found nowhere else in Canada. In particular, remnant patches of the Garry Oak ecosystems cover only 5% of their original range. These ecosystems play an important cultural role for the First Nations of the area and support hundreds of plants, birds, reptiles and insects, most of which are strict habitat specialists. COSEWIC assessed three plants found in this region as ENDANGERED OR THREATENED and one as EXTIRPATED bringing the total number of at-risk plants from Garry Oak and closely related ecosystems in the area to 37.

Longevity has its Risks

Long-lived animals breed later in life. Thus, survival of these wildlife species is highly susceptible to threats that increase adult mortality. This is the case for a large pigeon found in southern British Columbia and for the Snapping Turtle, Canada's largest freshwater reptile. The Band-tailed Pigeon has suffered long-term declines in abundance due to massive hunting pressure in the past and was assessed as SPECIAL CONCERN. The widely distributed Snapping Turtle, which can live for over 100 years, was assessed as SPECIAL CONCERN because of illegal harvesting, persecution and mortality on roads that increase adult death rates; this brings the total number of at-risk freshwater turtles in Canada to 10.

Next meeting

COSEWIC's next scheduled wildlife species assessment meeting goes to the east coast, where it will be held in New Brunswick from April 26 to May 1, 2009.

About COSEWIC

COSEWIC assesses the status of wild species, subspecies, varieties, or other important units of biological diversity, considered to be at risk in Canada. To do so, COSEWIC uses scientific, Aboriginal traditional and community knowledge provided by experts from governments, academia and other organizations. Summaries of assessments are currently available to the public on the COSEWIC website (www.cosewic.gc.ca) and will be submitted to the Federal Minister of the Environment in late summer 2009 for listing consideration under the *Species at Risk Act* (SARA). At that time, the full status reports will be publicly available on the SARA Public Registry (www.sararegistry.gc.ca).

There are now 577 wildlife species in various COSEWIC risk categories, including 238 Endangered, 146 Threatened, 157 Special Concern, and 23 Extirpated wildlife species (i.e. no longer found in the wild in Canada). In addition, 13 are Extinct and 44 are Data Deficient.

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Fisheries and Oceans Canada, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three non-government science members, and the co-chairs of the Species Specialist and the Aboriginal Traditional Knowledge Subcommittees.

Definition of COSEWIC terms and risk categories:

Wildlife Species: A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.

Extinct (X): A wildlife species that no longer exists.

Extirpated (XT): A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Endangered (E): A wildlife species facing imminent extirpation or extinction.

Threatened (T): A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

Special Concern (SC): A wildlife species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.

Not at Risk (NAR): A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

Data Deficient (DD): A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

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Dr. Jeff Hutchings
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Telephone (1): (902) 494-2687
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For general inquiries:

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c/o Canadian Wildlife Service
Environment Canada
Ottawa ON K2A 0H3
Telephone: (819) 953-3215
cosewic/cosepac@ec.gc.ca
www.cosewic.gc.ca

For inquiries on birds:

Richard Cannings
1330 East Debeck Road
R.R. 1, Site 11-Comp. 96
Naramata BC V0H 1N0

For inquiries on marine mammals:

Dr. Randall Reeves
Okapi Wildlife Associates
27 Chandler Lane
Hudson QC J0P 1H0
Telephone: (450) 458-6685
Fax: (450) 458-7383
rreeves@okapis.ca

For inquiries on arthropods (insects and related taxa):

Dr. Paul Catling
Research Scientist and Curator
Saunders Bldg., Central Expt. Farm
Ottawa ON K1A 0C6
Telephone: (613) 759-1373
Fax: (613) 759-1599
catlingp@agr.gc.ca

For inquiries on reptiles

Dr. Ronald J. Brooks
Department of Integrative Biology
College of Biological Science
University of Guelph
Guelph ON N1G 2W1
Telephone: (519) 824-4120 ext 53944
Fax: (519) 767-1656
rjbrooks@uoguelph.ca

For inquiries on Vancouver Lamprey or Lake Chubsucker

Dr. Robert Campbell
983 Route 800 E
R.R. #1
St. Albert ON K0A 3C0
Telephone: (613) 987-2552
Fax: (613) 987-5367
snowgoose@sympatico.ca

For inquiries on plants

Dr. Erich Haber
60 Baywood Dr.
Stittsville ON K2S 2H5
Telephone: (613) 435-0216
Fax: (613) 435-0217
erich.haber@rogers.com

For inquiries on marine fishes

Dr. Howard Powles
53 Lortie Street
Gatineau QC J9H 4G6
Telephone: (819) 684-7730
Fax: (819) 684-7730
powlesh@sympatico.ca

For inquiries on Rainbow Smelt:

Dr. Eric Taylor
Department of Zoology
University of British Columbia
6270 University Boulevard
Vancouver BC V6T 1Z4
Telephone: (604) 822-9152
Fax: (604) 822-2416
etaylor@zoology.ubc.ca

COSEWIC
Committee on the Status of Endangered Wildlife in Canada

COSEPAC
Comité sur la situation des espèces en péril au Canada

From Abalone to Whales: Aquatic Species in Canada Face Risk of Extinction

Bowhead Whale Recovering in Canada's Arctic

So says COSEWIC (Committee on the Status of Endangered Wildlife in Canada), which met in St. Andrews, New Brunswick, from April 25 through May 1, 2009 to assess the risk of extinction for 27 Canadian wildlife species. The Bowhead Whale is rooted deeply within Inuit culture and is the only baleen whale to reside year round in the Canadian waters of the High Arctic. Commercial whaling beginning in the 1500s severely depleted bowhead populations long before the species was given protection in the 1930s. Both Aboriginal Traditional Knowledge and scientific research provide evidence that bowhead population sizes have been steadily increasing in recent decades. As a consequence, Bowhead in the eastern Arctic were downlisted from Threatened to Special Concern, which is also the status assigned to the species in the western Arctic. Although the increased abundance is encouraging, the species faces an uncertain future in a rapidly changing Arctic climate.

Moratorium Not Enough to Halt Declines in Two Other Marine Species

American Plaice, a fish similar to sole and halibut, has suffered declines exceeding 90% in some areas along Canada's east coast. The fishery for plaice on Newfoundland's Grand Bank was once the largest fishery for flatfish in the world. Overfishing led to a moratorium on directed harvest in 1994 for the Newfoundland population, but fisheries in the Gulf of St. Lawrence and on the Scotian Shelf are still permitted. These populations were assessed as Threatened. Ongoing threats include fishing mortality caused by bycatch and under-reported catch.

The situation is even more dismal for a large marine shellfish on the Pacific Coast. Northern Abalone, prized for its succulent meat, is the only species of abalone to occur in Canada. The species continues to decline despite a 20-year moratorium on all harvest. Extensive poaching is unquestionably the primary threat to abalone. The species was up-listed from Threatened to Endangered, reflecting a heightened risk of extinction since the species was last assessed in 2000.

Wetland Species in Trouble

Canada contains one quarter of the planet's wetlands. These extremely important ecosystems provide key habitats for a diversity of plants and animals, including migratory birds. They also act as nature's kidneys, filtering toxins and debris from water before it is returned to major waterways. Wetlands are disappearing rapidly in some areas with a greater than 60%

loss in southern Ontario and Manitoba due to agriculture and development. To date, one third of all wildlife species assessed by COSEWIC to be at risk live in or near wetlands.

Over 90% of the breeding grounds for Horned Grebe in North America are located in Canadian wetlands. Declining abundance led to a status of Special Concern for this species west of Quebec. The distinct Magdalen Islands population in Quebec, having fewer than 50 breeders, faces a higher risk of extinction and was assessed a status of Endangered.

Coastal salt marshes provide unique conditions for habitat specialists like the Maritime Ringlet. Globally this butterfly only occurs in Canada, inhabiting a few marshes in northern New Brunswick and the Gaspé Peninsula. Given its extremely limited distribution and vulnerability to habitat loss, this butterfly was assessed as Endangered.

Once ubiquitous and common in wetlands across most of Canada, the Northern Leopard Frog has experienced major declines. In BC, it only persists as a single population in the Creston valley in the south of the province. This population was designated as Endangered. Prairie and northern populations were assessed as Special Concern. Ongoing threats include spread of alien diseases and habitat loss. Populations east of Manitoba appear to be holding their own and were assessed as Not At Risk.

Next meeting

COSEWIC's next scheduled wildlife species assessment meeting will be held in Ottawa, Ontario, in November 2009.

About COSEWIC

COSEWIC assesses the status of wild species, subspecies, varieties, or other important units of biological diversity, considered to be at risk in Canada. To do so, COSEWIC uses scientific, Aboriginal traditional and community knowledge provided by experts from governments, academia and other organizations. Summaries of assessments are currently available to the public on the COSEWIC website (www.cosewic.gc.ca) and will be submitted to the Federal Minister of the Environment in late summer 2009 for listing consideration under the *Species at Risk Act* (SARA). At that time, the full status reports will be publicly available on the SAR Public Registry (www.sararegistry.gc.ca).

There are now 585 wildlife species in various COSEWIC risk categories, including 244 Endangered, 145 Threatened, 160 Special Concern, and 23 Extirpated wildlife species (i.e. no longer found in the wild in Canada). In addition, 13 are Extinct and 45 are Data Deficient.

COSEWIC comprises members from each provincial and territorial government wildlife agency, four federal entities (Canadian Wildlife Service, Parks Canada Agency, Fisheries and Oceans Canada, and the Federal Biodiversity Information Partnership, chaired by the Canadian Museum of Nature), three non-government science members, and the co-chairs of the Species Specialist and the Aboriginal Traditional Knowledge Subcommittees.

Definition of COSEWIC terms and risk categories:

Wildlife Species: A species, subspecies, variety, or geographically or genetically distinct population of animal, plant or other organism, other than a bacterium or virus, that is wild by nature and is either native to Canada or has extended its range into Canada without human intervention and has been present in Canada for at least 50 years.

Extinct (X): A wildlife species that no longer exists.

Extirpated (XT): A wildlife species that no longer exists in the wild in Canada, but exists elsewhere.

Endangered (E): A wildlife species facing imminent extirpation or extinction.

Threatened (T): A wildlife species that is likely to become Endangered if nothing is done to reverse the factors leading to its extirpation or extinction.

Special Concern (SC): A wildlife species that may become Threatened or Endangered because of a combination of biological characteristics and identified threats.

Not at Risk (NAR): A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.

Data Deficient (DD): A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

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www.cosewic.gc.ca

For inquiries on freshwater fishes:

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Fax: (416) 736-5698
laurencepacker@yahoo.com

For inquiries on amphibians:

Dr. Ronald J. Brooks
Department of Integrative Biology
College of Biological Science
University of Guelph
Guelph ON N1G 2W1
Telephone: (519) 824-4120 ext. 53944
Fax: (519) 767-1656
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For inquiries on marine mammals:

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900 5th Street
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Telephone: (250) 753-3245 local 2317
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Jane.Watson@viu.ca

For inquiries on terrestrial mammals:

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Paul.Bentzen@dal.camailto:

For inquiries on molluscs:

Dr. Dwayne Lepitzki
203, 410 Buffalo Street
P.O. Box 1311
Banff AB T1L 1B3
Telephone: (403) 762-0864
lepitzki@telusplanet.net

Further details on all wildlife species assessed, and the reasons for designations, can be found on the COSEWIC website at: www.cosewic.gc.ca

APPENDIX II

COSEWIC Membership

ON JUNE 10, 2009, THE DIRECTOR, ENVIRONMENTAL STEWARDSHIP, GOVERNMENT OF BRITISH COLUMBIA, SENT A LETTER OF NOMINATION TO THE MINISTER OF THE ENVIRONMENT. THE NAME OF THE NOMINEE IS INDICATED BELOW IN BOLD AND UNDERLINED.

THE PROPOSED APPOINTMENT IS TO TAKE EFFECT UNTIL DECEMBER 31, 2013.

Table 1. Members from Provinces, Territories and Federal Agencies

Jurisdiction	Member	Member
Alberta	Dr. Gordon Court Provincial Wildlife Status Biologist Resource Data and Species at Risk Fish and Wildlife Division Dept. of Sustainable Resource Development Government of Alberta 7th Floor, O.S. Longman Building 6909 - 116 Street Edmonton AB T6H 4P2	Steve Brechtel Head Resource Data and Species at Risk Fish and Wildlife Division Dept. of Sustainable Resource Development Government of Alberta 7th Floor, O.S. Longman Building 6909 - 116 Street Edmonton AB T6H 4P2
British Columbia	David F. Fraser Endangered Species Specialist Biodiversity Branch Terrestrial Ecosystem Science Section Ministry of Water, Land and Air Protection Government of British Columbia P.O. Box 9338 - Station Prov Govt Victoria BC V8V 9M1	**Susan Pollard** Endangered Species Specialist Biodiversity Branch Aquatic Ecosystem Science Section B.C. Ministry of Water, Land and Air Protection Government of British Columbia P.O. Box 9338 - Station Prov Govt Victoria BC V8W 9M1
Manitoba	William George Watkins Wildlife and Ecosystem Protection Branch Manitoba Conservation P.O. Box 24 200 Saulteaux Crescent Winnipeg MB R3J 3W3	Martin Erickson Fisheries Biologist Aquatic Ecosystem Section Fisheries Branch Manitoba Water Stewardship Box 20, 200 Saulteaux Crescent Winnipeg MB R3J 3W3
New Brunswick	Dr. Maureen Toner Biologist Species at Risk Program Fish and Wildlife Branch Department of Natural Resources Hugh John Flemming Forestry Centre P. O. Box 6000 Fredericton NB E3B 5H1	Pascal Giasson Manager Species at Risk Program Fish and Wildlife Branch Department of Natural Resources Hugh John Flemming Forestry Centre P. O. Box 6000 Fredericton NB E3B 5H1

Jurisdiction	Member	Member
Newfoundland and Labrador (For all Species other than Marine Fish)	Dr. Isabelle Schmelzer Ecosystem Management Ecologist Wildlife Division Department of Environment & Conservation Government of Newfoundland and Labrador P.O. Box 2007 117 Riverside Drive Corner Brook NL A2H 7S1	Shelley Moores Senior Wildlife Biologist Wildlife Division Department of Environment & Conservation Government of Newfoundland and Labrador P.O. Box 2007 117 Riverside Drive Corner Brook NL A2H 7S1
Newfoundland and Labrador (Marine Pelagic and Demersal Fish Species)	Tom Dooley Director Sustainable Fisheries & Oceans Policy Division Department of Fisheries and Aquaculture Government of Newfoundland and Labrador P.O. Box 8700 St. John's NL A1B 4J6	Vacant
Northwest Territories	Dr. Suzanne Carrière Ecosystem Management Biologist Wildlife Division Department of Environment and Natural Resources Government of the Northwest Territories P.O. Box 1320 Yellowknife NT X1A 2L9	Tom Lakusta Manager, Forest Resources Forest Management Department of Environment and Natural Resources Government of the Northwest Territories PO Box 1320 Yellowknife NT X1A 2L9
Nova Scotia	Dr. J. Sherman Boates Manager Biodiversity Department of Natural Resources Government of Nova Scotia 136 Exhibition Street Kentville NS B4N 4E5	Mark F. Elderkin Species at Risk Biologist Nova Scotia Dept. of Natural Resources Government of Nova Scotia 136 Exhibition Street Kentville NS B4N 4E5
Nunavut Territory	Chris Hotson Senior Legislation and Management Biologist Department of Environment Government of Nunavut PO Box 209 Iglulik NU X0A 0L0	Vacant

Jurisdiction	Member	Member
Ontario	Alan Dextrase Senior Species at Risk Biologist Biodiversity Section Fish & Wildlife Branch Natural Resource Management Division Ontario Ministry of Natural Resources P.O. Box 7000 Peterborough ON K9J 8M5	Michael Oldham (appointment pending) Botanist/Herpetologist Ontario Natural Heritage Information Centre (NHIC) Ontario Ministry of Natural Resources P.O. Box 7000 Peterborough ON K9J 8M5
Prince Edward Island	For Terrestrial Species Rosemary Curley Program Manager Protected Areas and Biodiversity Conservation Forests, Fish and Wildlife Division Department of Environment, Energy and Forestry P.O. Box 2000 Charlottetown PE C1A 7N8 For Freshwater Species Rosanne MacFarlane Freshwater Fisheries Biologist Forests, Fish and Wildlife Division Department of Environment, Energy and Forestry P.O. Box 2000 Charlottetown PE C1A 7N8	For Marine Species Barry MacPhee Manager, Marine Fisheries Fisheries & Aquaculture Division Department of Agriculture, Fisheries & Aquaculture P.O. Box 2000 Charlottetown PE C1A 7N8
Quebec (Plants)	Jacques Labrecque Botaniste Ministère du Développement durable, de l'Environnement et des Parcs Direction du patrimoine écologique et des parcs 4e étage 675, boul. René-Lévesque Est Québec QC G1R 5V7	Vacant
Quebec (Fauna)	Daniel Banville Biologiste Ministère des Ressources naturelles et de la Faune Secteur Faune Québec 2e étage 880, chemin Ste-Foy Québec QC G1S 2L4	Jacques Jutras Biologiste Ministère des Ressources naturelles et de la Faune Secteur Faune Québec 2e étage 880, chemin Ste-Foy Québec QC G1S 2L4

Jurisdiction	Member	Member
Saskatchewan	Jeanette Pepper Zoologist Biodiversity Conservation Section Fish & Wildlife Branch Department of Environment Government of Saskatchewan 2nd Floor, 3211 Albert Street Regina SK S4S 5W6	Dr. Robert Wright Forest Plant Ecologist Forest Practices and Accountability Unit Forest Service Branch Department of Environment Government of Saskatchewan 3211 Albert Street Regina SK S7N 5W6
Yukon Territory	Thomas Jung Senior Biologist Fish and Wildlife Branch Department of Environment Government of Yukon P.O. Box 2703 Whitehorse YT Y1A 2C6	Bruce Bennett Wildlife Viewing Biologist Yukon Department of Environment Wildlife Viewing Program V5A Box 2703 Whitehorse YT Y1A 2C6
Federal Biodiversity Information Partnership (Canadian Museum of Nature)	Dr. Lynn Gillespie Research Scientist Canadian Museum of Nature P.O. Box 3443 - Station D Ottawa ON K1P 6P4	Jennifer Doubt Chief Collection Manager – Botany Canadian Museum of Nature P.O. Box 3443 - Station D Ottawa ON K1P 6P4
Environment Canada (Canadian Wildlife Service)	Dr. Theresa Fowler Science Advisor/ Species Assessment Biologist Population Conservation & Management Division Canadian Wildlife Service Environment Canada Ottawa ON K1A 0H3	Alain Branchaud Species at Risk Biologist Centre Saint-Laurent Environment Canada 105 McGill Street Montreal QC H2Y 2E7
Department of Fisheries and Oceans	Dr. Simon Nadeau Fish Population Science Fisheries & Oceans Canada 12S032 200 Kent Street Ottawa ON K1A 0E6	Ms. Christie Whelan Fish Population Science Fisheries and Oceans Canada 12S042 200 Kent Street Ottawa ON K1A 0E6
Parks Canada	Dr. Gilles Seutin Coordinator Species at Risk Program Parks Canada 25 Eddy Street, 4th Floor Gatineau QC K1A 0M5	Dr. Patrick Nantel Conservation Biologist Species at Risk Program Parks Canada 25 Eddy Street, 4th Floor Gatineau QC K1A 0M5

Table 2. Co-chairs of the Aboriginal Traditional Knowledge Subcommittee and Species Specialist Subcommittees, with dates of appointment and the ending date of their terms of office

AS REQUESTED IN A LETTER TO THE MINISTER OF THE ENVIRONMENT DATED MAY 27, 2009 FROM THE CHAIR OF COSEWIC, THE NOMINEES FOR APPOINTMENT ARE INDICATED IN BOLD AND UNDERLINED IN THE LIST BELOW. THE SUGGESTED TERMS ARE AS INDICATED.

Subcommitee	Name	Date Appointed	Term Ending
Aboriginal Traditional Knowledge	Henry Lickers Mohawk Council of Akwesasne Department of the Environment P.O. Box 579 Cornwall ON K6H 5T3	05/06/2003	31/12/2010
	Larry Carpenter Wildlife Management Advisory Council, - Northwest Territories P.O. Box 2120 Inuvik NT X0E 0T0	05/06/2003	31/12/2011
Amphibians and Reptiles Specialist	Dr. Ronald J. Brooks Department of Zoology College of Biological Science University of Guelph Guelph ON N1G 2W1	05/06/2003	31/12/2010
	Note: Co-chair Position vacant		
Arthropods Specialist	Dr Paul M. Catling Research Scientist and Curator Biodiversity, National Program on Environmental Health Agriculture and Agri-food Canada Research Branch Wm. Saunders Bldg., Central Experimental Farm Ottawa ON K1A 0C6	01/01/2005	31/12/2012
	Dr. Laurence Packer Department of Biology York University 4700 Keele Street Toronto ON M3J 1P3	01/01/2007	31/12/2010

Subcommitee	Name	Date Appointed	Term Ending
Birds Specialist	Mr. Jon McCracken Director National Programs Bird Studies Canada P.O. Box 160 115 Front Street Port Rowan ON N0E 1M0	01/01/2009	31/12/2012
	Dr. Marty L. Leonard Department of Biology Dalhousie University 1355 Oxford Street Halifax NS B3H 4J1	05/06/2003	31/12/2010
Freshwater Fishes Specialist	Dr. Robert Campbell 983 Route 800 E R.R. #1 St. Albert ON K0A 3C0	05/06/2003	31/12/2009
	Dr. John R. Post Professor, Ecology and Evolutionary Biology Department of Biological Sciences University of Calgary 2500 University Drive Calgary, Alberta T2N 1N4	**01/01/2010**	**31/12/2013**
	Dr. Eric B. Taylor Associate Professor Department of Zoology University of British Columbia 6270 University Boulevard Vancouver BC V6T 1Z4	01/01/2008	31/12/2011
Marine Fishes Specialist	Dr. Howard Powles 53 rue Lortie Gatineau QC J9H 4G6	01/01/2006	31/12/2009
	Alan Sinclair 1409 Gabriola Drive Parksville, British Columbia V9P 2Y5	**01/01/2010**	**31/12/2013**
	Dr. Paul Bentzen Professor Department of Biology, Dalhousie University Halifax NS B3H 4J1	01/01/2006	31/12/2011

Subcommitee	Name	Date Appointed	Term Ending
Marine Mammals Specialist	Dr. Jane Watson Malaspina University College 900 5th Street Nanaimo BC V9R 5S5	01/01/2008	31/12/2011
	Dr. Randall Reeves Okapi Wildlife Associates 27 Chandler Lane Hudson QC J0P 1H0	01/01/2005	31/12/2012
Mosses and Lichens Specialist	Dr. René Belland Devonian Botanic Garden University of Alberta Edmonton AB T6G 2E1	05/06/2003	31/12/2011
	Co-chair Vacant		
Molluscs Specialist	Robert Forsyth P.O. Box 3804 Smithers BC V8T 3Y7	01/01/2007	31/12/2010
	Dr. Dwayne Lepitzki P.O. Box 1311 Banff AB T1L 1B3	01/01/2009	31/12/2012
Terrestrial Mammals Specialist	**Dr. Mark Brigham** Department of Biology University of Regina Regina, SK S4S 0A2	01/01/2006	**31/12/2010**
	Dr. Justina Ray Faculty of Forestry University of Toronto 720 Spalding Avenue, #600 Toronto, Ontario M5S 2T9	01/01/2009	31/12/2012
Vascular Plants Specialist	**Dr. Erich Haber** c/o National Botanical Services 604 Wavell Avenue Ottawa ON K2A 3A8	05/06/2003	**31/12/2010**
	Bruce Bennett Wildlife Viewing Biologist Yukon Department of Environment Wildlife Viewing Program V5A P.O. Box 2703 Whitehorse YT Y1A 2C6	**01/01/2010**	**31/12/2011**

Table 3. COSEWIC Non-government Science Members with dates of appointment and the ending date of their terms of office

Name	Date Appointed	Term Ending
Michael Bradstreet Nature Conservancy of Canada Ontario Administrative Centre 115 Front Street P.O. Box 520 Port Rowan ON N0E 1M0	05/06/2003	31/12/2011
Dr. Jeannette Whitton Associate Professor and Director, UBC Herbarium Department of Botany University of British Columbia 3529-6270 University Boulevard Vancouver BC V6T 1Z4	01/01/2007	31/12/2010
Dr. Jeffrey Hutchings Department of Biology Dalhousie University 1355 Oxford Street Halifax NS B3H 4J1	05/06/2003	31/12/2012

APPENDIX III

Biosketches of Proposed New / Renewed Members

Nominee - New
Co-Chair, Freshwater Fishes Subcommittee
(4 year term January 1, 2010 – December 31, 2013)

Dr. John R. Post
Professor, Ecology and Evolutionary Biology
Department of Biological Sciences
University of Calgary
2500 University Drive
Calgary, Alberta
T2N 1N4

Dr. Post received a Ph.D. from York University in 1987 and is currently a Full Professor in Ecology and Evolutionary Biology at the University of Calgary. His research focuses on the field ecology of freshwater fishes with an emphasis on demography, population dynamics, behaviour and physiology. In addition to developing a basic understanding of the ecology of freshwater fishes, Dr. Post and his students lead research on climate change, harvest dynamics and habitat requirements. He has experience with a diversity of fishes involving field work in central, western and northern Canada. Dr. Post has published over 80 peer-reviewed papers and a number of technical reports, including the Status Report on Bull Trout in Alberta.

Dr. Post has served in numerous administrative and advisory roles including Chair of Ecology and Evolutionary Biology at the University of Calgary (1999-2004 and 2006-2008), Natural Sciences and Engineering Research Council Grant Selection Committee in Evolution and Ecology (2008-ongoing) and was a founding member of the Alberta Endangered Species Conservation Committee (ESCC: 1997-2005). His role on the ESCC was as the academic representative on the committee that reviewed Alberta Status Reports and provided listing, funding and Recovery Team recommendations to the Minister. He is also an Associate Editor of the Canadian Journal of Fisheries and Aquatic Sciences.

Nominee - New
Co-Chair, Marine Fishes Specialist Subcommittee
(4 year term January 1, 2010 – December 31, 2013)

Mr. Alan Sinclair
1409 Gabriola Drive
Parksville, British Columbia
V9P 2Y5

Mr. Sinclair has a Masters of Environmental Studies (MES), Dalhousie University (1986),Thesis Title: Analysis of technological interactions in Scotian Shelf offshore fisheries and a Bachelor of Science (Honours), Dalhousie University (1976), Thesis Title: The effect of fenitrothion on the heart rate of brook trout.

Mr. Sinclair has 33 years experience in fisheries research and fish stock assessment with Fisheries and Oceans Canada. His research has included stock assessment methods and application with a recent emphasis on management strategy evaluation through feedback loop simulation. He has studied changes in fish population demographic characteristics including growth, juvenile survival, and adult natural mortality and the implications of these changes on productivity and management reference points. He has also investigated geologic and oceanographic factors influencing the spatial distribution of fish species, and the influence of environmental factors on recruitment.

Mr. Sinclair has practical experience in planning, managing and leading fisheries research, stock assessment, population and fishery modeling, research surveys, fish tagging, fishery observers, catch sampling, computer programming, consultation, presentation and administration. He has contributed to national and international fisheries organizations including the Pacific Scientific Advice Review Committee (PSARC) chair of Groundfish Subcommittee; Canadian Atlantic Fisheries Advisory Committee (CAFSAC) chaired the Groundfish Subcommittee, the Statistics Sampling and Surveys Subcommittee; NAFO stock assessments and symposia; ICES annual science conferences, symposia and working groups; PICES annual science conference, and US National Marine Fisheries Service (NMFS) Stock Assessment Review (STAR) Panels.

Mr. Sinclair has fulfilled a consultative role on fisheries research and management to government agencies and fishing industry committees. This has included numerous presentations and consultations with Canadian fisheries management organizations including the Fisheries Resource Conservation Council, Atlantic Groundfish Advisory Committee, Gulf Groundfish Advisory Committee, Groundfish Trawlers Advisory Committee. He participated in program review of Population Dynamics Branch at NMFS Northeast Fisheries Science Center (1990), panel member of NMFS stock assessment review of Gulf of Mexico Red Snapper (1997), fisheries consultant for FAO review of Moroccan fisheries management plans (1999 and 2000), and chaired EU Fisheries Commission meeting on North Sea groundfish TAC decision rules (2007).

Nominee - New
Co-Chair, Vascular Plants Specialist Subcommittee
(2 year term January 1, 2010 – December 31, 2011)

Mr. Bruce Bennett
33 Chinook Lane
Whitehorse YT Y1A 5Y2

Mr. Bennett is a biologist based in the Yukon with more than 20 years of professional experience as a field botanist. He is currently employed as a wildlife biologist with the Yukon Department of Environment. His formal academic training includes a B.Sc. in Biology (University of Victoria, 1991), and two technical diplomas including one in fish, wildlife and recreation (British Columbia Institute of Technology, 1989).

His experience with vascular plants is primarily with the flora of the Yukon Territory, as reflected in his publications. Of 16 publications listed as peer-reviewed (since 2000), eight are new plant records for the Yukon, and two others are updates for Yukon species. Most of these publications are in *Canadian Field Naturalist* (8) or *Botanical Electronic News* (4).

He also has a strong knowledge of vascular plants in British Columbia having worked as a naturalist in Manning Park, as the collection manager for the Royal British Columbia Museum, and worked on Southern Vancouver Island and the South Okanagan with the Canadian Wildlife Service before moving to Yukon in 1995.

His field experience is extensive, and his knowledge of the Yukon flora is well established. In addition, he has experience with rare plants, including assessing conservation status, having served as the NatureServe Botanist for the Yukon, in addition to conducting inventory work in the Yukon, northern British Columbia and western Northwest Territories.

He has served as a member of the COSEWIC Vascular Plants Specialist Subcommittee since 2005, and is a member of a number of other committees, including the Yukon Invasive Species Committee, and the Wildlife Viewing Technical Committee.

Nominee - Renewal
Co-Chair, Terrestrial Mammals Subcommittee
(1 year term January 1, 2010 – December 31, 2010)

Dr. Mark Brigham
Department of Biology
University of Regina
Regina SK S4S 0A2

Dr. Brigham has a B.Sc. from Queen's University, a M.Sc. from Carleton University and a Ph.D. from York University. He is currently a full Professor of Biology at the University of Regina. Over the last 24 years, Dr. Brigham has conducted research on the ecology, behaviour and conservation of bats, as well as a variety of bird species. Although bats are the focus of Dr. Brigham's research, he has a broad knowledge of terrestrial mammals, particularly those found in grassland habitats of western Canada. Dr. Brigham also teaches Animal behaviour and Conservation Biology at the University of Regina, and possesses current knowledge in this area.

Dr. Brigham has experience in assessment techniques and in formulating status recommendations. He has been a Co-chair for 4 years and a member of COSEWIC's Terrestrial Mammals SSC for 9 years and has also served on the Province of Saskatchewan's Scientific Committee, which provides status recommendations for plants and animals in the province.

Dr. Brigham has extensive experience both in writing and reviewing scientific articles. He has authored or co-authored over 125 peer-reviewed papers, was an associate editor of the journal "American Midland Naturalist". He is current an associate editor for Journal of Mammalogy and Acta Chiropterologica. He has conducted reviews for over 30 journals and several granting agencies. He has also reviewed numerous COSEWIC species status reports as Co-chair and member of the Terrestrial Mammals Specialist Subcommittee.

Nominee - Renewal
Co-Chair, Vascular Plants Specialist Subcommittee
(1 year term January 1, 2010 – December 31, 2010)

Dr. Erich Haber
60 Baywood Dr.
Stittsville ON K2S 2H5

Dr. Erich Haber has a Ph.D. from the University of Toronto (A Biosystematic Study of Eastern North American Species of the Genus *Pyrola)*. He worked 22 years as a botanist with the Canadian Museum of Nature and spent the last 16 years as a biological consultant. His recent consulting work has dealt primarily with species at risk and invasive species. He has an extensive report and publication list that spans the entire range from referred journal publications, popular articles, technical reports and online databases.

Dr. Erich Haber has shepherded over 200 COSEWIC reports through the system in his 27 year association with COSEWIC, including Co-chair of the Vascular Plants Specialist Subcommittee. He also served a two-year term as chair of COSEWIC. He has extensive knowledge of the flora of Canada and conducted fieldwork in eastern Canada, British Columbia, Alberta and the High Arctic. His work has involved systematics and ecology. His contributions have been widely acknowledged and awards have included the Roland Michener Conservation Award in 2000 and a service award from COSEWIC in 1998.

APPENDIX IV

COSEWIC Wildlife Species Assessments (detailed version), November 2008*

Results are grouped by taxon and then by status category. A reason for designation is given for each wildlife species. A short history of status designations follows. The range of occurrence in Canada for each wildlife species (by province, territory, or ocean) is provided.

Mammals

Killer Whale ***Orcinus orca*** **Endangered**
Southern Resident Population
Assessment Criteria C2a(i,ii); D1

Reason for Designation
The population is small and declining, and the decline is expected to continue. Southern residents are limited by the availability of their principal prey, Chinook Salmon. There are forecasts of continued low abundance of Chinook Salmon. Southern residents are also threatened by increasing physical and acoustical disturbance, oil spills and contaminants.

Range Pacific Ocean

Status History
The "North Pacific resident populations" were given a single designation of Threatened in April 1999. Split into three populations in November 2001. The Southern Resident population was designated Endangered in November 2001. Status re-examined and confirmed in November 2008.

Killer Whale ***Orcinus orca*** **Threatened**
Northern Resident Population
Assessment Criteria Met criterion for Endangered, D1, but designated Threatened, D1, because of the recent and apparently ongoing increase in mature individuals.

Reason for Designation
The population is small, and is limited by the availability of its principal prey, Chinook Salmon. It is also at risk from physical and acoustical disturbance, oil spills and contaminants. However, this population has been increasing slowly but steadily since monitoring began in 1975.

Range Pacific Ocean

Status History
The "North Pacific resident populations" were given a single designation of Threatened in April 1999. Split into three populations in November 2001. The Northern Resident population was designated Threatened in November 2001. Status re-examined and confirmed in November 2008.

Killer Whale ***Orcinus orca*** **Threatened**

West Coast Transient population

Assessment Criteria Met criterion for Endangered, D1, but designated Threatened, D1, because total abundance has increased since the 1970's.

Reason for Designation
This population has a very small number of mature individuals (~122). It is subject to threats from high-levels of contaminants, acoustical and physical disturbance, and potential oil spills. However, the population has been increasing since the mid-1970s when monitoring began, and its prey base of pinnipeds and cetaceans is likely stable or increasing.

Range Pacific Ocean

Status History
Designated Special Concern in April 1999. Status re-examined and designated Threatened in November 2001 and in November 2008.

Killer Whale ***Orcinus orca*** **Threatened**

Offshore population

Assessment Criteria Met criterion for Endangered, D1, but designated Threatened, D1, because the population appears to be stable and threats do not appear to be currently severe enough to be negatively affecting the population.

Reason for Designation
This population has a very small number of mature individuals (~120). It is subject to threats from high level of contaminants, acoustical and physical disturbance, and potential oil spills. However, the population is monitored and appears to be stable.

Range Pacific Ocean

Status History
The "North Pacific resident populations" were given a single designation of Threatened in April 1999. Split into three populations in November 2001. The Offshore population was designated Special Concern in November 2001. Status re-examined and designated Threatened in November 2008.

Killer Whale ***Orcinus orca*** **Special Concern**

Northwest Atlantic / Eastern Arctic populations

Assessment Criteria not applicable

Reason for Designation
Threats to this population include hunting in Greenland, acoustical and physical disturbance, which will become greater as shipping traffic increases in the Arctic, and contaminants. This population's small size (fewer than 1000 mature individuals and likely less than 250) and the species' life history and social attributes justify designation as Special Concern.

Range Arctic Ocean Atlantic Ocean

Status History
Species considered in April 1999 and in November 2001, and placed in the Data Deficient category. Re-examined in November 2008 and designated Special Concern.

Birds

Band-tailed Pigeon ***Patagioenas fasciata*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
This large pigeon has suffered long-term declines throughout its range in the western mountains of North America, due in part to overhunting. Harvest has been severely limited in Canada for the past 16 years. Although population surveys (e.g. Breeding Bird Survey and mineral site counts) have low precision, they do suggest a stabilization of the population in the last decade. The species is long-lived (up to 22 years) and has a slow reproductive rate; females typically lay only one or two eggs per year. Forestry may negatively affect habitat in the long term, creating dense second-growth forests with few berry-producing shrubs; the pigeons also are susceptible to disturbance at isolated mineral sources needed for their nutrition.

Range BC

Status History
Designated Special Concern in November 2008.

Reptiles

Snapping Turtle ***Chelydra serpentina*** **Special Concern**

Assessment Criteria not applicable

Reason for Designation
Although this species is widespread and still somewhat abundant, its life history (late maturity, great longevity, low recruitment, lack of density-dependent responses), and its dependence on long warm summers to complete incubation successfully make it unusually susceptible to anthropogenic threats. When these threats cause even apparently minor increases in mortality of adults, populations are likely to decline as long as these mortality increases persist. There are several such threats and their impacts are additive. Aboriginal Traditional Knowledge generally support the declining trend and population figures in the COSEWIC report.

Range SK MB ON QC NB NS

Status History
Designated Special Concern in November 2008.

Fishes

Lake Chubsucker ***Erimyzon sucetta*** **Endangered**

Assessment Criteria B2ab(ii,iii,iv)

Reason for Designation
A species with a restricted geographic Canadian range with small extant populations having very specific and narrow habitat preferences, which are under continued stress. It is extremely susceptible to habitat change driven by urban, industrial and agricultural practices resulting in increased turbidity. Two populations have been lost, and of the 11 extant populations, 3 are in serious decline as a result of the continuing and increasing threats posed by agricultural, industrial and urban development that are expected to impact the remaining populations of Lakes Erie and St. Clair.

Range ON

Status History
Designated Special Concern in April 1994. Status re-examined and designated Threatened in November 2001. Status re-examined and designated Endangered in November 2008.

Roundnose Grenadier ***Coryphaenoides rupestris*** **Endangered**
Assessment Criteria A2b

Reason for Designation
Survey data indices of adult numbers show declines of 98% from 1978 to 1994 with a further decline from 1995 to 2003. Although much of the population lives at depths greater than those surveyed, adding uncertainty to the assessment, this constitutes the best available information to assess species status. The species is long-lived (60 yr) and matures late (around 10 yr) which makes it susceptible to human-caused mortality. Commercial catches were high in the 1960s and 1970s but have since declined, although harvest still occurs.

Range Arctic Ocean Atlantic Ocean

Status History
Designated Endangered in November 2008.

Rainbow Smelt ***Osmerus mordax*** **Threatened**
Lake Utopia large-bodied population
Assessment Criteria D2

Reason for Designation
This population is part of a genetically divergent sympatric pair of *Osmerus* that is endemic to a single lake in Canada with an extremely small index of area of occupancy (6 sq. km). It spawns in only three (3) small streams in the watershed and could quickly become extinct through degradation of spawning streams from increasing development around the lake shore and impacts of the dip-net fishery. This population is threatened by introduction of exotic species and by increasing eutrophication.

Range NB

Status History
Designated Threatened in November 2008.

Rainbow Smelt ***Osmerus mordax*** **Threatened**
Lake Utopia small-bodied population
Assessment Criteria D2

Reason for Designation
This population is part of a genetically divergent sympatric pair of *Osmerus* that is endemic to a single lake in Canada with an extremely small index of area of occupancy (6 sq. km). It spawns in only three (3) small and ephemeral streams in the watershed and could quickly become extinct through degradation of spawning streams from increasing development around the lake shore. There may be impacts through illegal dip-net fishery. This population is threatened by introduction of exotic species and by increasing eutrophication.

Range NB

Status History
Designated Threatened in April 1998. Status re-examined and confirmed in May 2000 and November 2008.

Vancouver Lamprey ***Lampetra macrostoma*** **Threatened**
Assessment Criteria D2

Reason for Designation
This endemic parasitic species, known only from one location in British Columbia is dependent on the availability of salmonids. Given that its primary prey is juvenile Coho Salmon in Cowichan Lake, the recent and ongoing decline of Coho adults observed returning to the lake is expected to have a significant negative impact on lamprey numbers.

Range BC

Status History
Designated Special Concern in April 1986. Status re-examined and confirmed in April 1998. Status re-examined and designated Threatened in November 2000 and in November 2008.

Yelloweye Rockfish ***Sebastes ruberrimus*** **Special Concern**
Pacific Ocean outside waters population
Assessment Criteria not applicable

Reason for Designation
This species is one of an inshore rockfish complex which is exploited by commercial, recreational and Aboriginal fisheries. Life history characteristics make the species particularly susceptible to human-caused mortality, with a maximum recorded age of 120 yr and generation time estimated at 70 yr. Fishery-independent surveys over the past 10 yr do not show significant declines, while declines over 19 yr in commercial catch per unit effort are not believed to represent abundance accurately. Fishery quotas have been substantially reduced from the early 1990s to recent years, closed areas are in place, and restrictions on harvesting are expected to keep catches low in the future. A designation of Special Concern is consistent with the life history characteristics and probable continued removals in fisheries.

Range Pacific Ocean

Status History
Designated Special Concern in November 2008.

Yelloweye Rockfish ***Sebastes ruberrimus*** **Special Concern**
Pacific Ocean inside waters population
Assessment Criteria not applicable

Reason for Designation
This species is one of an inshore rockfish complex which is exploited by commercial, recreational and Aboriginal fisheries. Life history characteristics make the species particularly susceptible to human-caused mortality, with a maximum recorded age of 120 yr and generation time estimated at 66 yr. Fishery-independent surveys over the past 20 yr do not show significant declines, while declines over 19 yr in commercial catch per unit effort are not believed to represent abundance accurately. Commercial catch quotas have been reduced and restrictions on harvesting are expected to keep catches low in future; in addition, areas have been closed to commercial and recreational fishing. A designation of Special Concern is consistent with the life history characteristics and probable continued removals in fisheries.

Range Pacific Ocean

Status History
Designated Special Concern in November 2008.

Arthropods

Cobblestone Tiger Beetle ***Cicindela marginipennis*** **Endangered**
Assessment Criteria B1ab(iii,v)+2ab(iii,v)

Reason for Designation
This distinctive species of tiger beetle has a fragmented distribution with a very small extent of occurrence and area of occupancy, and is currently only found in two small regions of the St. John River system. There is evidence for decline of habitat and population in one region and the pressures on the habitat from development and recreation appear to be continuing.

Range NB

Status History
Designated Endangered in November 2008.

Pygmy Snaketail ***Ophiogomphus howei*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This globally rare species is known from few locations and has a specialized and restricted habitat with low population numbers and one significant site is threatened.

Range ON NB

Status History
Designated Special Concern in November 2008.

Vascular Plants

Oregon Lupine ***Lupinus oreganus*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
The species has only been recorded from Oak Bay, Victoria, BC, where it was first collected in 1924. The last record of its existence in Canada is a collection made from the same area in 1929. The species has not been recorded since its last collection in the region in spite of extensive botanical surveys within southeastern Vancouver Island over the last several decades.

Range BC

Status History
Designated Extirpated in November 2008.

California Buttercup ***Ranunculus californicus*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation

A perennial species restricted to two small island groups adjacent to Victoria, BC. The four small confirmed populations are found within coastal meadow habitats where the extensive spread of invasive plants place the species at risk. Potential impacts on the populations include planned enlargement of communications towers at one site and unauthorized recreational visitors to the island habitats.

Range BC

Status History
Designated Endangered in November 2008.

Gray's Desert-parsley ***Lomatium grayi*** **Threatened**
Assessment Criteria D2

Reason for Designation
A highly restricted perennial herb with a small population found on only two sites on the Gulf Islands of British Columbia. The presence of invasive species such as Scotch Broom reduces the quality of the fragile habitat and grazing deer and sheep likely restrict the species' ability to expand beyond its limited area of occupancy.

Range BC

Status History
Designated Threatened in November 2008.

Mexican Mosquito-fern ***Azolla mexicana*** **Threatened**
Assessment Criteria B1ab(iii,iv,v)+2ab(iii,iv,v)

Reason for Designation
This tiny floating aquatic fern of south-central British Columbia is restricted to 8 small water bodies where its populations undergo periodic fluctuations in numbers of individuals. Two populations and their habitat have been lost in recent years due to construction activities with most of the extant populations occurring adjacent to major highways or a railway where they are at potential risk from maintenance activities, including the use of chemicals such as road salt.

Range BC

Status History
Designated Threatened in April 1984. Status re-examined and confirmed in April 1998, May 2000, and November 2008.

Slender Popcornflower ***Plagiobothrys tenellus*** **Threatened**
Assessment Criteria B1ab(iii)+2ab(iii); D1

Reason for Designation
An annual herb of grassy slopes and coastal bluffs within the highly reduced and fragmented Garry Oak ecosystem. About half of the known populations have been extirpated from areas heavily impacted by invasive alien plants on southeastern Vancouver Island and adjacent Gulf Islands. Only seven small populations remain. Population sizes fluctuate, likely depending on precipitation, with several comprising only a few individuals. The total population size is estimated to be fewer than 1000 individuals. Invasive plants continue to degrade the species' habitat at all sites.

Range BC

Status History
Designated Threatened in November 2008.

*The status reports on the California Hedge-parsley (*Yabea microcarpa*) and the Winged Water-starwort (*Callitriche marginata)* were rejected and therefore these wildlife species were not assessed by COSEWIC.

12/03/2008

COSEWIC Wildlife Species Assessments (detailed version), April 2009*

Results are grouped by taxon and then by status category. A reason for designation is given for each wildlife species. A short history of status designations follows. The range of occurrence in Canada for each wildlife species (by province, territory, or ocean) is provided.

Mammals

Black-footed Ferret ***Mustela nigripes*** **Extirpated**
Assessment Criteria not applicable

Reason for Designation
Not observed in Canada since 1937. Considered extirpated following its assessment in 1974.

Range AB SK

Status History
Extirpated by 1974. Designated Extirpated in April 1978. Status re-examined and confirmed in May 2000 and in April 2009.

Bowhead Whale ***Balaena mysticetus*** **Special Concern**
Bering-Chukchi-Beaufort population
Assessment Criteria not applicable

Reason for Designation
The population was severely depleted by commercial whaling from 1848 until about 1915, a period of about 65-70 years. Since 1915, it has been subject to regular hunting for subsistence by Aboriginal people in Alaska (USA) and Chukotka (Russia) and occasional hunting by the Inuvialuit of the western Canadian Arctic. In the absence of commercial whaling, this population has been recovering and was estimated at 10,400 in 2001. Nevertheless, it is not yet clearly secure because of its life history (e.g. long generation time, very low natural growth rate) and the possible impacts of habitat changes. There is uncertainty about how bowheads will respond to the rapid changes in their habitat due to climate change and increasing human activities such as shipping and oil exploration in high latitudes. Such habitat changes have already begun to occur and will intensify over the next 100 years. In view of the species' life history, it is important that hunting continue to be monitored and managed to ensure against over-harvest.

Range Arctic Ocean

Status History
The "Eastern and Western Arctic populations" were given a single designation of Endangered in April 1980. Split into two populations (Eastern Arctic and Western Arctic) to allow separate designations in April 1986. The Western Arctic population was designated Endangered in April 1986. The population was renamed to "Bering-Chukchi-Beaufort population" and designated Special Concern in May 2005. Status re-examined and confirmed in April 2009.

Bowhead Whale ***Balaena mysticetus*** **Special Concern**
Eastern Canada-West Greenland population
Assessment Criteria not applicable

Reason for Designation
The population was severely depleted by commercial whaling, starting in the 1500s and continuing until about 1910. Since the early 1900s, it has been subject only to sporadic hunting by Inuit in Canada and Greenland. In the absence of commercial whaling, the population is believed to have been increasing for decades and is likely still increasing. This increase is supported by evidence from both Aboriginal Traditional Knowledge (ATK) and science. Current total abundance is estimated at around 6000. In spite of the increase, the population is not yet clearly secure because of its life history (e.g. long generation time, very low natural growth rate). Additionally, there is uncertainty about how bowheads will respond to the rapid changes in their habitat due to climate change and increasing human activities such as shipping and oil exploration in high latitudes. Such habitat changes have already begun to occur and will intensify over the next 100 years. In view of the species' life history, it is important that hunting continue to be monitored and managed to ensure against over-harvest.

Range Arctic Ocean

Status History
The "Eastern and Western Arctic populations" were given a single designation of Endangered in April 1980. Split into two populations (Eastern Arctic and Western Arctic) to allow separate designations in April 1986. The Eastern Arctic population was not re-evaluated in April 1986, but retained the Endangered status of the original "Eastern and Western Arctic populations". The Eastern Arctic population was further split into two populations (Hudson Bay-Foxe Basin population and Davis Strait-Baffin Bay population) in May 2005, and each was designated Threatened. In April 2009, the Hudson Bay-Foxe Basin population and the Davis Strait-Baffin Bay population were considered a single unit and this Eastern Canada-West Greenland population was designated Special Concern.

Birds

Horned Grebe ***Podiceps auritus*** **Endangered**

Magdalen Islands population

Assessment Criteria B1ab(ii,v)+2ab(ii,v); C2a(i,ii); D1

Reason for Designation
The small breeding population of this species has persisted on the Magdalen Islands for at least a century. It has recently shown declines in both population size and area of occupancy. The small size of the population (average of 15 adults) makes it particularly vulnerable to stochastic events.

Range QC

Status History
Designated Endangered in April 2009.

Roseate Tern ***Sterna dougallii*** **Endangered**

Assessment Criteria D1

Reason for Designation
In Canada, this colonial species is part of the northeastern population that breeds on small islands off the Atlantic coast from the Magdalen Islands in the Gulf of St. Lawrence south to Long Island, New York. It winters in South America, from Colombia to eastern Brazil. The most recent (2007) population estimate for Canada was 200 mature individuals occupying 7 locations (approximately 98% are in only 2 locations). The number of mature birds has been fairly stable over the past decade despite recovery efforts. Rescue through immigration of birds from the United States is unlikely since the species is endangered in New England and the population there is also small (circa 7600 mature individuals in 2007). The primary factors limiting the population are predation of eggs, young and adults, low adult survival rates, and stochastic events (e.g. hurricanes).

Range QC NB NS

Status History
Designated Threatened in April 1986. Status re-examined and designated Endangered in April 1999. Endangered status re-examined and confirmed in October 1999 and in April 2009.

Least Bittern ***Ixobrychus exilis*** **Threatened**

Assessment Criteria A2b; C1

Reason for Designation
This diminutive member of the heron family has a preference for nesting near pools of open water in relatively large marshes that are dominated by cattail and other robust emergent plants. Its breeding range extends from southeastern Canada through much of the eastern U.S. Information on the population size and exact distribution of this secretive species is somewhat limited. Nevertheless, the best available evidence indicates that the population is small (about 3000 individuals) and declining (> 30% in the last 10 years), largely owing to the loss and degradation of high-quality marsh habitats across its range.

Range MB ON QC NB NS

Status History
Designated Special Concern in April 1988. Status re-examined and confirmed in April 1999. Status re-examined and designated Threatened in November 2001 and in April 2009.

Whip-poor-will ***Caprimulgus vociferus*** **Threatened**
Assessment Criteria A2bc

Reason for Designation
In Canada, this well-known, nocturnal bird has experienced both long-term and short-term population declines. Indices of abundance indicate that populations have been reduced by more than 30% over the last 10 years (i.e. 3 generations). Like other aerial foraging insectivores, habitat loss and degradation as well as changes to the insect prey base may have affected Canadian populations.

Range SK MB ON QC NB NS

Status History
Designated Threatened in April 2009.

Horned Grebe ***Podiceps auritus*** **Special Concern**
Western population
Assessment Criteria not applicable

Reason for Designation
Approximately 92% of the North American breeding range of this species is in Canada and is occupied by this population. It has experienced both long-term and short-term declines and there is no evidence to suggest that this trend will be reversed in the near future. Threats include degradation of wetland breeding habitat, droughts, increasing populations of nest predators (mostly in the Prairies), and oil spills on their wintering grounds in the Pacific and Atlantic Oceans.

Range YT NT NU BC AB SK MB ON

Status History
Designated Special Concern in April 2009.

Amphibians

Northern Leopard Frog ***Lithobates pipiens*** **Endangered**
Rocky Mountain population
Assessment Criteria C2a(i); D1

Reason for Designation
Although previously found in many localities in southeastern British Columbia and the Okanagan, this frog has suffered severe declines in both distribution and abundance, and now exists in extremely small numbers at only a single native population in the Creston valley.

Range BC

Status History
Designated Endangered in April 1998. Status re-examined and confirmed in May 2000 and in April 2009.

Northern Leopard Frog ***Lithobates pipiens*** **Special Concern**
Western Boreal/Prairie populations
Assessment Criteria not applicable

Reason for Designation
This species remains widespread but has experienced a considerable contraction of range and the loss of populations in the past, particularly in the west. This has been accompanied by increased isolation of remaining populations, which fluctuate widely in size, with some showing signs of recovery. The species is adversely affected by habitat conversion, including wetland drainage and eutrophication, game fish introduction, collecting, pesticide contamination and habitat fragmentation that curtails recolonization and rescue of declining populations. The species is also susceptible to emerging diseases.

Range NT AB SK MB

Status History
Designated Special Concern in April 1998. Status re-examined and confirmed in November 2002 and in April 2009.

Northern Leopard Frog ***Lithobates pipiens*** **Not at Risk**
Eastern populations
Assessment Criteria not applicable

Reason for Designation
Although this species has shown evidence of declines, it remains widespread and common in eastern Canada.

Range MB ON QC NB PE NS NL

Status History
Designated Not at Risk in April 1999 and in April 2009.

Fishes

Spring Cisco ***Coregonus* sp.** **Endangered**
Assessment Criteria A2bce; B1ab(iii,v)+2ab(iii,v)

Reason for Designation
This species, known from only one small lake in southwestern Quebec, has undergone a drastic decline in abundance over the past 15 years (3 generations). The decline may be related to a combination of factors including habitat degradation and loss resulting from urban and agricultural development, the introduction of non-native species (e.g. Rainbow Smelt and Atlantic Salmon), and climate change.

Range QC

Status History
Designated Special Concern in April 1992. Status re-examined and designated Endangered in April 2009.

American Plaice ***Hippoglossoides platessoides*** **Threatened**

Newfoundland and Labrador population

Assessment Criteria Met criteria for Endangered, A2b, but designated Threatened, A2b, because the distribution has remained stable, and the present level of abundance appears to be such that it is unlikely that there is a 20% chance of extinction within 5 generations (80 yrs).

Reason for Designation

This right-eye flounder burrows in sediment to escape predators and ambush prey. It is widely distributed on both sides of the North Atlantic Ocean, from the Barents Sea to the British Isles in the east, and from northern Baffin Island to Rhode Island in the west. This population occurs from Hudson Strait to the southern limit of the Grand Bank, and westward north of the Laurentian Channel to the southwestern corner of Newfoundland. A relatively sedentary, non-schooling species, it was likely once the most abundant flatfish in the northwest Atlantic, and the fishery for it in Newfoundland waters was once the largest flatfish fishery in the world. Over a 47 year time series, (about 3 generations) abundance has declined approximately 96%. Overfishing is a major cause of the decline, but an apparent increase in natural mortality in the 1990s, when the largest part of the decline occurred, may also have contributed. The decline now appears to have ceased, but numbers remain below a precautionary threshold estimated for this stock. The directed fishery is under moratorium but some significant and poorly regulated bycatches are negatively influencing recovery. In addition, fishing gear is size selective, cropping large individuals, and reducing population reproductive potential. There is evidence that natural mortality has increased which reduces the ability of the population to withstand fishing mortality.

Range Atlantic Ocean

Status History

Designated Threatened in April 2009.

American Plaice ***Hippoglossoides platessoides*** **Threatened**

Maritime population

Assessment Criteria Met criteria for Endangered, A2b, but designated Threatened, A2b, because of large, stable area of occurrence and large remaining number of adults.

Reason for Designation

This right-eye flounder burrows in the sediment to escape predators and ambush prey. It is widely distributed on both sides of the North Atlantic Ocean, from the Barents Sea to the British Isles in the east, and from northern Baffin Island to Rhode Island in the west. This population occurs in the Gulf of St. Lawrence, the Scotian Shelf, the Bay of Fundy and Georges Bank. A relatively sedentary, non-schooling species, it was likely once the most abundant flatfish in the northwest Atlantic. Over a 36 year time series, (about 2.25 generations) abundance of mature individuals has declined about 86% in the Gulf of St. Lawrence, and 67% on the Scotian Shelf. Overfishing is a major cause of the decline, but an apparent increase in natural mortality in the 1990s, when the largest part of the decline occurred, may also have contributed. The decline appears to have ceased in the Gulf but may be continuing on the Scotian Shelf. There are small ongoing directed fisheries in the Gulf with a quota in the south but no quota management in the north. On the Scotian Shelf and in the Bay of Fundy, this species is managed together with other flatfishes as a multispecies stock and there are no specific management measures to ensure sustainability.

Range Atlantic Ocean

Status History

Designated Threatened in April 2009.

Bigmouth Buffalo ***Ictiobus cyprinellus*** **Special Concern**
Saskatchewan - Nelson River populations
Assessment Criteria not applicable

Reason for Designation
Although there has been an increase in the extent of occurrence (EO) and area of occupancy (AO) in Manitoba, the species is apparently not abundant there. Dramatic declines in the Qu'Appelle River basin appear to be related to changes in water management practices that have led to elimination and/or degradation of spawning habitat and subsequent reduction in reproductive potential. Increasing demands for water for agricultural purposes may also be limiting for other population components in this Biogeographic Zone.

Range SK MB

Status History
The species was considered a single unit and designated Special Concern in April 1989. Split into two populations in April 2008 to allow a separate designation of the Bigmouth Buffalo (Great Lakes - Upper St. Lawrence populations). The Bigmouth Buffalo (Saskatchewan – Nelson River populations) was not assessed in April 2008; it retained the Special Concern designation of the original Bigmouth Buffalo. The population was designated Special Concern in April 2009.

American Plaice ***Hippoglossoides platessoides*** **Data Deficient**
Arctic population
Assessment Criteria not applicable

Reason for Designation
Information to establish any COSEWIC risk category with assurance is not available. Data on distribution, abundance and specific habitat, including any observed changes over time, are especially needed.

Range Arctic Ocean

Status History
Species considered in April 2009 and placed in the Data Deficient category.

Arthropods

Edwards' Beach Moth ***Anarta edwardsii*** **Endangered**
Assessment Criteria B1ab(i,ii,iii,iv)+2ab(i,ii,iii,iv)

Reason for Designation
In Canada, this species of noctuid moth has only been found in sparsely-vegetated sandy beach and dune habitats on the coast of Vancouver Island and two small adjacent Gulf Islands. Together, these constitute only two locations. The habitats are at risk from succession, invasive species, recreational activities and changing patterns of sand deposition resulting from increasing frequency and intensity of winter storms. It is currently known from James and Sydney Islands and Pacific Rim National Park. The chance of genetic exchange is minimal between Pacific Rim and other areas and low between the Gulf Islands. One population has not been detected in recent times, and the species could not be found at 38 other locations where there appeared to be suitable habitat.

Range BC

Status History
Designated Endangered in April 2009.

Maritime Ringlet ***Coenonympha nipisiquit*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
Globally, this species of Satyr butterfly is confined to 10 salt marshes in the small region of Baie des Chaleurs and Gaspesie. Only three populations are large enough for long term survival to be probable. All populations are expected to experience habitat loss due to both sea level rise and increased storm frequency. The New Brunswick populations are also subject to threats associated with increased urban development and the collection of host plants.

Range QC NB

Status History
Designated Endangered in April 1997. Status re-examined and confirmed in May 2000 and in April 2009.

Molluscs

Northern Abalone ***Haliotis kamtschatkana*** **Endangered**
Assessment Criteria A2bd

Reason for Designation
Highly valued for its meat, this marine mollusc is patchily distributed along the west coast of Canada. Despite a total moratorium on harvest in 1990, the species was designated as Threatened in 2000. Poaching is the most serious threat and continues to reduce population abundance, particularly the larger, more fecund component; however, all size classes have declined significantly over the past three generations (i.e. since 1978) with mature individuals declining an estimated 88-89%. Low densities may further exacerbate the problem by reducing fertilization success in this broadcast spawner (the Allee effect). Although predators such as the recovering Sea Otter population are not responsible for recently observed declines, they may ultimately influence future abundance of abalone populations.

Range Pacific Ocean

Status History
Designated Threatened in April 1999. Status re-examined and confirmed in May 2000. Status re-examined and designated Endangered in April 2009.

Brook Floater ***Alasmidonta varicosa*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
A medium-sized freshwater mussel that is confined to 15 widely scattered watersheds in Nova Scotia and New Brunswick. This mussel was never abundant, usually representing only 1-5% of the total freshwater mussel fauna present. The habitat is subject to impacts (shoreline development, poor agricultural practices, and other water quality issues) with potential cumulative degradation on larger stretches of rivers. Populations appear to have been lost from two historic locations, although new populations have been formed recently. Because this mussel has disappeared from approximately half of its USA locations, the Canadian population now represents an important global stronghold for the species.

Range NB NS

Status History
Designated Special Concern in April 2009.

Vascular Plants

Bent Spike-rush ***Eleocharis geniculata*** **Endangered**
Southern Mountain population
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
Only a single population of this annual species of the sedge family is known from a seasonally flooded wetland complex within a sandy spit at Osoyoos Lake, BC. Approximately 10,000 small plants are restricted to an area of about 1200 square metres where they are at risk from stochastic events and the potential impacts from the spread of exotic grasses.

Range BC

Status History
Designated Endangered in April 2009.

Bent Spike-rush ***Eleocharis geniculata*** **Endangered**
Great Lakes Plains population
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
Only two extant Ontario populations are known for this annual species of the sedge family. The total population consists of possibly fewer than 2500 plants. They occur mainly in sandy wet habitats along ponds and in damp open meadows over an area of only about 2000 square metres. The habitat is declining due to the spread of the invasive, introduced form of Common Reed, an aggressive exotic grass.

Range ON

Status History
Designated Endangered in April 2009.

Deltoid Balsamroot ***Balsamorhiza deltoidea*** **Endangered**
Assessment Criteria Met criteria for Threatened, A2ac; B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v), but designated Endangered, B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v), because 4 of the native populations may not be viable.

Reason for Designation
A showy perennial comprising only eight natural populations containing about 1600 mature plants. The largest population has declined greatly due to site development in recent years and accounts for most of the 35-40% decline in the total Canadian population. All populations experience continued habitat degradation from competition with invasive introduced plants. Four of the eight populations are also at risk of extirpation from stochastic events due to the presence of only one to several plants in each.

Range BC

Status History
Designated in April 1996 as Endangered. Status re-examined and confirmed Endangered in May 2000 and in April 2009.

Drooping Trillium ***Trillium flexipes*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii)

Reason for Designation
A showy perennial species currently present at only two small locations in southern Ontario. It has not been found at five additional sites where it was documented historically. This riparian species is at on-going risk of habitat degradation from the invasion of exotic plants. It is also at risk from recreational activities and the effects of stochastic events due to its small population size.

Range ON

Status History
Designated Endangered in April 1996. Status re-assessed and confirmed in May 2000 and in April 2009.

Prairie Lupine ***Lupinus lepidus*** **Endangered**
Assessment Criteria B1ab(ii,iii,iv,v)+2ab(ii,iii,iv,v); C2a(i); D1

Reason for Designation
A perennial species found at only 2 or possibly 3 remaining locations within southeastern Vancouver Island. Its small total population has been reduced in recent decades with < 250 mature individuals present in 2009. The spread of invasive plants continues to degrade habitat within and adjacent to extant sites that could serve to support the establishment and survival of the species.

Range BC

Status History
Designated Endangered in April 1996. Status re-examined and confirmed in May 2000 and in April 2009.

Water-plantain Buttercup ***Ranunculus alismifolius*** **Endangered**
Assessment Criteria B1ab(iii)+2ab(iii); C2a(i)

Reason for Designation
This species has been reduced to two small populations within the highly impacted Garry Oak Ecosystem of southwestern British Columbia. Impacts from human activities and spread of invasive plants within and around its vernal p( )l habitats continue to place the species at risk of extirpation.

Range BC

Status History
Designated Endangered in April 1996. Status re-examined and confirmed in May 2000 and in April 2009.

White-top Aster ***Sericocarpus rigidus*** **Special Concern**
Assessment Criteria not applicable

Reason for Designation
This perennial species reproduces primarily asexually and is present at 22 discrete sites that include 14 recently discovered populations. The latter were previously unrecorded, but likely always present, and include the largest populations. The total population comprises many thousands of stems with most of the plants found in parks and on federal lands. In spite of the species' occurrence mainly in protected areas, it is at risk from increasing recreational activities and the spread of invasive exotic plants.

Range BC

Status History
Designated Threatened in April 1996. Status re-examined and confirmed in May 2000. Status re-examined and designated Special Concern in April 2009.

*The report on Silver Lamprey (Ichthyomyzon unicuspis) was withdrawn to allow inclusion of new information relevant to wildlife species eligibility, including the apparent non-distinction from Northern Brook Lamprey (Ichthyomyzon fossor). The report on Columbia Dune Moth (Copablepharon absidum) was withdrawn to incorporate more information on search effort.

05/01/2009

APPENDIX V

CANADIAN WILDLIFE SPECIES AT RISK

August 2009

Aussi disponible en français

COSEWIC
Committee on the Status
of Endangered Wildlife
in Canada

COSEPAC
Comité sur la situation
des espèces en péril
au Canada